

ABSTRACT

Disclosed herein is a method for generating steam, comprising oxidizing a fuel to generate heat via a flameless reaction; and using the heat generated via the reaction to convert water to steam. In an embodiment, the amount of NO_x present in flue gas from the reaction is less than about 10 PPMv.

- 5 In an embodiment, the reaction temperature is less than about 2600°F (1430°C). In an embodiment, the method further comprises controlling the reaction temperature to minimize the formation of NO_x. In an embodiment, controlling the reaction temperature further comprises sensing one or more process variables and adjusting a process controller in response to the sensed process variable. Also disclosed herein is a steam generator comprising a reaction zone wherein
- 10 fuel is oxidized to generate heat via a flameless reaction and a heating zone wherein water is converted to steam via heat from the reaction.